

SCIENCE

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FRIDAY, JULY 28, 1899.

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MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson N. Y.

THE NICARAGUA CANAL ROUTE.

THE attention which the problem of connecting the Atlantic and Pacific Oceans by means of a ship canal is now attracting lends an interest to any information concerning the Isthmian region and affords an excuse for the publication in SCIENCE of matter more fully published in other less widely circulated media.*

Exact information concerning the Nicaragua Canal Route is derived chiefly from four surveys of the region, made with a view to determining the best route for a ship canal. The first was made by Colonel Childs, in the interest of the Vanderbilt Transit Company, which held a concession from the Nicaraguan government for constructing a canal. The second was made by Commander Lull, under instructions from the Secretary of the Navy. These two surveys amounted to a good reconnaissance and served to show that no insurmountable obstacles were to be met with. The third survey was that made by the Maritime Canal Company, under the direction of Chief Engineer A. G. Menocal. This extended over several years, and was much more comprehensive than either of the

* Physiography and Geology of region adjacent to the Nicaragua Canal Route. *Bul. Geol. Soc. Am.*, vol. 10, pp. 285-348. 1899.

Physiography of the Nicaragua Canal Route. *Nat. Geog. Mag.*, July, 1899.

Appendix 2, report of the Nicaragua Canal Commission, 1897-99. Govt. Print. In press.

As to primitive marriage the authors tend toward a promiscuity theory as *versus* Westermarck (p. 111). It is notable that the 'muscle' dance as sexual lure is found amongst the Arunta (p. 381). Religion as mere craft is suggestively noted (p. 130). The intense solidarity and communism of savage life is vividly portrayed in this work. The account of socialization suggests that if we could penetrate animal organization, for example, crows, we might find quite similar methods, a general animistic interpretation and adaptation, and a sort of unspecialized Totemism, for instance, in rain calls. In this work we find plenty of hard dry facts, of external description, thorough and precise, but we have little large, comparative and psychic interpretation. We learn very little of how the natives think and feel. The conservatism of savage life is alluded to, as also the rather narrow but real chance of variation. Their powers of observation and memory in what directly concerns their livelihood is mentioned, as is also their very limited power of numeration. In adaptive intelligence they are in one point inferior to the elephant, who thatches himself, for though the Australian has warm skins of kangaroo he has never thought to use them as defense from the cold which often goes below freezing point. As clothing is unknown to him, we must revise our definition of man as an animal that wears clothes.

The authors are far from making clear the concept of the natives as regards the life of the individual after death. They continually use the word 'spirit'; but the essence or vital core of the individual which changes residence is really concrete (pp. 137 and 516), and it seems obvious that the natives have not risen to the idea of body and spirit. It would certainly be highly desirable that a skilled psychologist should closely interpret the psychic basis of the ceremonies, etc., described, should study emotions and their expressions, and test the psychic power of the natives in various ways.

The work has good maps and photographic illustrations. Some of the faces and figures are finely sculpturesque, for example pages 35 and 43, and the full face, p. 38, is a veritable Olympic Zeus.

HIRAM M. STANLEY.

Guide to Excursions in the Fossiliferous Rocks of New York State. By JOHN M. CLARKE, State Paleontologist. June, 1899. Pp. 1-120. Or Handbook 15, University of the State of New York.

This booklet is somewhat of a novelty in American geological literature. Every student of geology knows that New York State is classic ground for many of the Paleozoic formations of America. But a knowledge of how to see the various formations and collect their characteristic fossils to the best advantage in the shortest time and with the least expense can be obtained only after much experience. Here, however, most of this information is at hand and students of geology can go directly to classical localities and lovers of nature to some of the prettiest spots in the State.

In this booklet are described in detail 27 excursions, each demanding from 1 to 7 days. All of the trips can be made in from 56 to 72 days. The best and most readily accessible sections are described and directions given to railroads, the places to stop over night and the localities and beds furnishing characteristic fossils from the Cambrian to the Chemung, including the post-Glacial clays.

It is to be hoped that other States will profit by New York's example and that similar booklets for Maryland, Ohio, Indiana, Illinois and Iowa will follow.

C. S.

BOOKS RECEIVED.

Praxis und Theorie der Zellen und Befruchtungslehre. VALENTIN HÄCKER. Jena, Gustav Fischer. 1899. Pp. viii + 260. Mark 7.

Physical Nature of the Child. STUART H. ROWE. New York and London, The Macmillan Company. Pp. xiv + 206. \$1.00

The Elements of Physics for use in High Schools. HENRY CREW. New York and London, The Macmillan Company. 1899. Pp. xiii + 347. \$1.10.

SCIENTIFIC JOURNALS AND ARTICLES.

The American Naturalist for July opens with an article by T. H. Montgomery, 'Observations on Owls, with particular regard to their Feeding Habits,' which clearly demonstrates the comparative abundance of small rodents as well as the numbers destroyed by owls.